

Abstract

An apparatus, system and method reduce the cool down time of GC ovens by supplying larger volumes of air through oven intake ducts. The system and method provide intake cross-sheets in an oven intake duct to reduce airflow spin, increasing the flow rate of fresh air into the GC oven and reducing the overall cool-down time of the GC oven. In addition, because the improved airflow allows the oven wall temperature to quickly match the oven air temperature, the noise in the temperature signal may be reduced. As a result, the GC oven can reach an equilibrium “ready” state faster. Furthermore, the utilization of the cross-sheets may allow for flexibility in the design of a fast GC oven – specifically in the location and shape of the intake duct – without loss of performance. This flexibility may become increasingly significant as GC ovens continue on the trend of becoming smaller and faster.